



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/030,939	01/15/2002	Akihiko Suehiro	217958US3PCT	4107

22850 7590 05/19/2003

OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C.  
1940 DUKE STREET  
ALEXANDRIA, VA 22314

EXAMINER

DUNN, DAVID R

ART UNIT

PAPER NUMBER

3616

DATE MAILED: 05/19/2003

8

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/030,939

Applicant(s)

SUEHIRO ET AL. *ES*

Examiner

David Dunn

Art Unit

3616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 15 January 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 January 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5,7. 6) ☐ Other:

Art Unit: 3616

## DETAILED ACTION

### *Priority*

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### *Information Disclosure Statement*

2. The information disclosure statements filed 1/15/02, 4/9/02, and 5/30/02 are acknowledged. See enclosed IDS forms. The IDS of 4/9/02 did not include a form PTO-1449; this IDS was a listing of related US applications, and it has been noted.

### *Drawings*

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "ball-like shape" of the lower lid (claims 4 and 5) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### *Claim Rejections - 35 USC § 112*

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

Art Unit: 3616

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1-7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 is indefinite as it is unclear what is meant by the final two lines, specifically "in the order mentioned from the center thereof".

Claim 3 is indefinite as it is unclear what is meant by "pressuring the iron or steel to flow".

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1 and 3-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Katsuda et al. (6,116,643) in view of Cabrera et al. (6,123,359).

Shirk et al. discloses a gas generator comprising a housing formed by joining a steel-made (see column 9, lines 30-35) upper lid (3) containing a top plate (31) and a side cylinder (32) extending downward from the entire circumferential edge thereof, with a steel-made lower lid (2) containing a bottom plate (21), a side cylinder (25) extending upward from the entire circumferential edge thereof, and an ignitor holding portion (26) formed integrally with the

Art Unit: 3616

bottom plate and for fixing an ignitor (4), the ignitor and a gas generating agent (7) being arranged in the housing in the order mentioned from the center thereof.

Katsuda et al. fails to show the upper lid having the gas discharge holes (they are in the bottom lid) or caulking an ignitor.

Cabrera et al. shows a gas generator (see Figure 3) including an upper lid (12) with gas discharge holes and a lower lid (22) with an integrally formed ignitor holding portion for fixing by caulking (20) an ignitor. Cabrera et al. shows the lower lid in a ball-like shape (similar to that of Applicant's). Cabrera et al. shows the ignitor holding portion on a wall thickness with an inner cylindrical portion for holding the ignitor, a protruding portion from the cylindrical portion, and a bending portion (see Figure 3). Cabrera et al. shows the L/D ratio being less than 1. Cabrera et al. shows a gas generating agent of which a main component is a nitrogen (N) containing organic compound (carbon); see column 4, lines 40-65.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Katsuda et al. with the teachings of Cabrera et al. in order to better seal the ignitor to the housing.

With respect to claim 3, it is noted that the method of manufacture is not germane to the apparatus claim and the combination of Katsuda et al. and Cabrera et al. shows the same product. However, the examiner also takes Official Notice that forming by partial pressuring steel is old and well known in the art and it would have been obvious to form the housing using this method.

8. Conversely, Claims 1 and 3-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cabrera et al. in view of Katsuda et al.

Cabrera et al. is discussed above and fails to show the housing made of steel.

Art Unit: 3616

Katsuda et al. is discussed above.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Cabrera et al. with the teachings of Katsuda et al. in order to provide a cheaper material for the housing.

9. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Katsuda et al. in view of Cabrera et al. as applied above, and further in view of Osborne et al.

The combination of Katsuda et al. and Cabrera et al. is discussed above and fails to show a flange extending from the upper lid.

Osborne et al. shows an upper lid with a flange (30).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Katsuda et al. and Cabrera et al. with the teachings of Osborne et al. in order to easily attach the gas generator to the air bag module.

10. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cabrera et al. in view of Katsuda et al. as applied above, and further in view of Osborne et al.

The combination of Cabrera et al. and Katsuda et al. is discussed above and fails to show a flange extending from the upper lid.

Osborne et al. shows an upper lid with a flange (30).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Cabrera et al. and Katsuda et al. with the teachings of Osborne et al. in order to easily attach the gas generator to the air bag module.

Art Unit: 3616

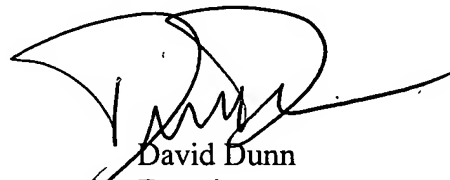
*Conclusion*

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Saso et al. shows a gas generator of interest constructed of steel. Shirk et al. also shows a steel gas generator. Ruckdeschel et al. shows a gas generator of interest. Hock et al. and Jordan et al. also show gas generators of interest.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Dunn whose telephone number is 703-305-0049. The examiner can normally be reached on Mon-Thur, alt. Fridays, 9:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Dickson can be reached on 703-308-2089. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-7687 for regular communications and 703-305-7687 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-1113.



David Dunn  
Examiner  
Art Unit 3616